

17.5 Intel Material Declaration Data Sheets

The Material Declaration Data Sheets (MDDS) contained in this chapter are based upon the format established by the Electronic Industries Alliance (EIA), The European Information and Communication Technology Association (EICTA) and the Japan Green Procurement Survey Standardization Initiative (JGPSSI). This format is published as the Joint Industry Guide for Material Composition Declaration and can be found at: <http://www.eia.org/resources/2003-09-19.10.pdf>

Most of the data sheets contained in this chapter are based on third-party analytical testing of the product specified in footnote #2 of each MDDS. If a product is not specified in footnote #2, the data listed in that MDDS are based on engineering estimates. Data sheets are organized by representative package types which cover the range of similar products. Since multiple products may be covered by a data sheet, data are reported in parts per million (ppm). Mass of the product is provided. Mass of individual materials can be calculated by the user as needed.

MDDSs for other package families will be added to this chapter as they become available. In addition, existing MDDSs will be updated periodically as additional data becomes available. Users of MDDS are responsible for consulting this chapter regularly to ensure they are using the most recent MDDS version.

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MATERIAL DECLARATION DATA SHEET

PLCC¹ 28L – 132L

Manufacturer Name: Intel Corporation **Date (mm/dd/yy):** 05/01/04

Product Description: Plastic Leaded Chip Carrier (PLCC) 28L – 132L

Product Weight (g): 28L: 2.4 32L: 1.86 44L: 2.45 52L: 3.17 68L: 4.80 84L: 6.20
132L: 4.62

LEVEL A MATERIALS AND SUBSTANCES

- Materials from Annex A of the EIA/EICTA/JGPSSI Material Composition Declaration Guide and listed in the table below are neither contained nor intentionally added to this product.

Asbestos	Mercury/Mercury Compounds	Polychlorinated Naphthalenes
Azo colorants	Ozone Depleting Substances	Radioactive Substances
Cadmium /Cadmium Compounds	Polybrominated Biphenyls (PBBs)	Shortchain Chlorinated Paraffins
Hexavalent Chromium	Polybrominated Diphenylethers (PBDEs)	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
Hexavalent Chromium Compounds	Polychlorinated Biphenyls (PCBs)	Tributyl Tin Oxide (TBTO)

- This product contains lead/lead compounds. **YES**

	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Lead/Lead Compounds	Electrical interconnect	IC Lead	2300	

LEVEL B MATERIALS AND SUBSTANCES

Antimony/Antimony Compounds	Bismuth/Bismuth Compounds	Phthalates
Arsenic/Arsenic Compounds	Brominated Flame Retardants	Selenium/Selenium Compounds
Beryllium/Beryllium Compounds	Nickel/Nickel Compounds	Vinyl Chloride Polymer (PVC)

- The product contains materials listed in Annex B of the EIA/EICTA/JGPSSI Material Composition Declaration Guide above the threshold level of 1000 ppm.

Material/Substance	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Brominated flame retardant	Flame retardant	Epoxy encapsulation material	9200	

COMMENTS

- The remainder of this package consists of non-reportable metals (e.g., tin, iron, etc.), epoxy resin and other non-metal materials.

¹ This data sheet is based on the product specified and other packages are assumed to be similar.

² Data in parts per million (ppm) can be used to estimate content for other packages assumed to be similar. The data on Level A and B materials and substances are averages based on analytical testing of the following packages: PLCC 28L.

³ Material mass can be estimated by multiplying concentration (ppm) by product weight.



MATERIAL DECLARATION DATA SHEET

LPCC¹

Manufacturer Name: Intel Corporation

Date (mm/dd/yy): 08/03/04

Product Description: Leadless Plastic Chip Carrier (LPCC) 24L

Product Weight (g): 0.046

LEVEL A MATERIALS AND SUBSTANCES

- Materials from Annex A of the EIA/EICTA/JGPSSI Material Composition Declaration Guide and listed in the table below are neither contained nor intentionally added to this product.

Asbestos	Mercury/Mercury Compounds	Polychlorinated Naphthalenes
Azo colorants	Ozone Depleting Substances	Radioactive Substances
Cadmium /Cadmium Compounds	Polybrominated Biphenyls (PBBs)	Shortchain Chlorinated Paraffins
Hexavalent Chromium	Polybrominated Diphenylethers (PBDEs)	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
Hexavalent Chromium Compounds	Polychlorinated Biphenyls (PCBs)	Tributyl Tin Oxide (TBTO)

- This product contains lead/lead compounds. **YES**

	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Lead/Lead Compounds	Electrical interconnect	Solder finish	770	

LEVEL B MATERIALS AND SUBSTANCES

Antimony/Antimony Compounds	Bismuth/Bismuth Compounds	Phthalates
Arsenic/Arsenic Compounds	Brominated Flame Retardants	Selenium/Selenium Compounds
Beryllium/Beryllium Compounds	Nickel/Nickel Compounds	Vinyl Chloride Polymer (PVC)

- The product contains materials listed in Annex B of the EIA/EICTA/JGPSSI Material Composition Declaration Guide above the threshold level of 1000 ppm.

Material/Substance	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Antimony	Flame retardant	Epoxy molding	930	
Brominated flame retardant	Flame retardant	Epoxy encapsulation material	1910	
Nickel	Plating	Substrate	<3850	

COMMENTS

- The remainder of this package consists of non-reportable metals (e.g., tin, iron, etc.), epoxy resin and other non-metal materials.

¹ This data sheet is based on the product specified and other packages are assumed to be similar.

² Data in parts per million (ppm) can be used to estimate content for other packages assumed to be similar. The data on Level A and B materials and substances are averages based on analytical testing of the following packages: LXT16713A

³ Material mass can be estimated by multiplying concentration (ppm) by product weight.



MATERIAL DECLARATION DATA SHEET

LCC¹

Manufacturer Name: Intel Corporation

Date (mm/dd/yy): 05/01/04

Product Description: Leadless Chip Carrier (LCC) – 68L

Product Weight (g): 68L: 4.94

LEVEL A MATERIALS AND SUBSTANCES

- Materials from Annex A of the EIA/EICTA/JGPSSI Material Composition Declaration Guide and listed in the table below are neither contained nor intentionally added to this product.

Asbestos	Mercury/Mercury Compounds	Polychlorinated Naphthalenes
Azo colorants	Ozone Depleting Substances	Radioactive Substances
Cadmium /Cadmium Compounds	Polybrominated Biphenyls (PBBs)	Shortchain Chlorinated Paraffins
Hexavalent Chromium	Polybrominated Diphenylethers (PBDEs)	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
Hexavalent Chromium Compounds	Polychlorinated Biphenyls (PCBs)	Tributyl Tin Oxide (TBTO)

- This product contains lead/lead compounds. **NO**

	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Lead/Lead Compounds				

LEVEL B MATERIALS AND SUBSTANCES

Antimony/Antimony Compounds	Bismuth/Bismuth Compounds	Phthalates
Arsenic/Arsenic Compounds	Brominated Flame Retardants	Selenium/Selenium Compounds
Beryllium/Beryllium Compounds	Nickel/Nickel Compounds	Vinyl Chloride Polymer (PVC)

- The product contains materials listed in Annex B of the EIA/EICTA/JGPSSI Material Composition Declaration Guide above the threshold level of 1000 ppm.

Material/Substance	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Nickel	Plating	Substrate	42800	
Brominated flame retardant	Flame retardant	Epoxy encapsulation material	7500	

COMMENTS

- The remainder of this package consists of non-reportable metals (e.g., tin, iron, etc.), epoxy resin and other non-metal materials.

¹ This data sheet is based on the product specified and other packages are assumed to be similar.

² Data in parts per million (ppm) can be used to estimate content for other packages assumed to be similar. The data on Level A and B materials and substances are averages based on analytical testing of the following packages: LCC 68L.

³ Material mass can be estimated by multiplying concentration (ppm) by product weight.



MATERIAL DECLARATION DATA SHEET

PLCC¹ (Lead/Pb-Free)

Manufacturer Name: Intel Corporation

Date (mm/dd/yy): 09/28/04

Product Description: Plastic Leaded Chip Carrier (PLCC)

Product Weight (g): 84L: 7.27

LEVEL A MATERIALS AND SUBSTANCES

- Materials from Annex A of the EIA/EICTA/JGPSSI Material Composition Declaration Guide and listed in the table below are neither contained nor intentionally added to this product.

Asbestos	Mercury/Mercury Compounds	Polychlorinated Naphthalenes
Azo colorants	Ozone Depleting Substances	Radioactive Substances
Cadmium /Cadmium Compounds	Polybrominated Biphenyls (PBBs)	Shortchain Chlorinated Paraffins
Hexavalent Chromium	Polybrominated Diphenylethers (PBDEs)	Tributyl Tin (TBT) and Triphenyl Tin (TPT)
Hexavalent Chromium Compounds	Polychlorinated Biphenyls (PCBs)	Tributyl Tin Oxide (TBTO)

- This product contains lead/lead compounds. **NO**

	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³
Lead/Lead Compounds				

LEVEL B MATERIALS AND SUBSTANCES

Antimony/Antimony Compounds	Bismuth/Bismuth Compounds	Phthalates
Arsenic/Arsenic Compounds	Brominated Flame Retardants	Selenium/Selenium Compounds
Beryllium/Beryllium Compounds	Nickel/Nickel Compounds	Vinyl Chloride Polymer (PVC)

- The product contains materials listed in Annex B of the EIA/EICTA/JGPSSI Material Composition Declaration Guide above the threshold level of 1000 ppm.

Material/Substance	Description of Use	Location in Product	Material Concentration (ppm) ²	Material Mass (g) ³

COMMENTS

- The remainder of this package consists of non-reportable metals (e.g., tin, iron, etc.), epoxy resin and other non-metal materials.

¹ This data sheet is based on the product specified and other packages are assumed to be similar.

² Data in parts per million (ppm) can be used to estimate content for other packages assumed to be similar. The data on Level A and B materials and substances are averages based on analytical testing of the following packages:

PY87CB96/L432UZ36B

³ Material mass can be estimated by multiplying concentration (ppm) by product weight.